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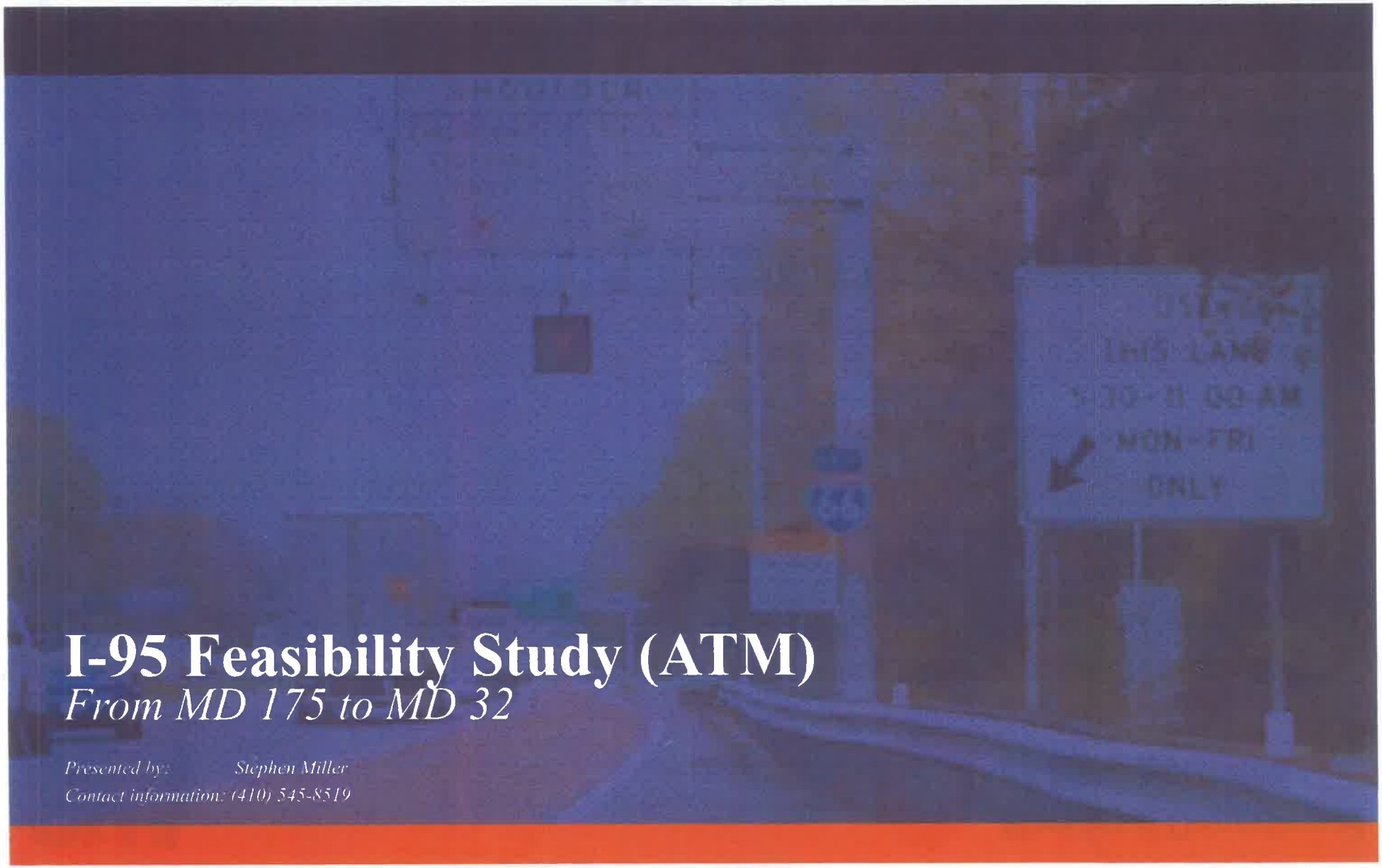

I-95 Feasibility Study (ATM)

From MD 175 to MD 32

Presented by: *Stephen Miller*
Contact information: (410) 545-8519

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PROBLEM IDENTIFICATION

- Severe, recurring, peak hour congestion along the corridor
  - #3 bottleneck
  - #30 most congested link (I-95 @ MD 175)

2014 Rank	Location	Road	Direction
1	I-495 IL @ I-270 Spur	I-495	Inner Loop
2	I-95 OL @ Greenbelt Metro Dr/Exit 24**	I-95	Outer Loop
3	I-95 N @ MD-100/Exit 43	I-95	Northbound

- Above average crash patterns at interchanges
  - Crash density pattern

- Inconsistent travel times – unreliability
  - High Planning Time Index (PTI).

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CONCEPT DEVELOPMENT

- Collected recommendations from previous studies. (7; '03-'15)
- Evaluated 17 concepts, which came from:
  - Previous studies; and
  - New concepts identified based on traffic & crash data.
  - Included both traditional geometric and ATM concepts.
- Pared down to 4 concepts on ability to meet:
  - Cost constraints;
  - Comparative operational efficiency; and
  - Corridor needs.

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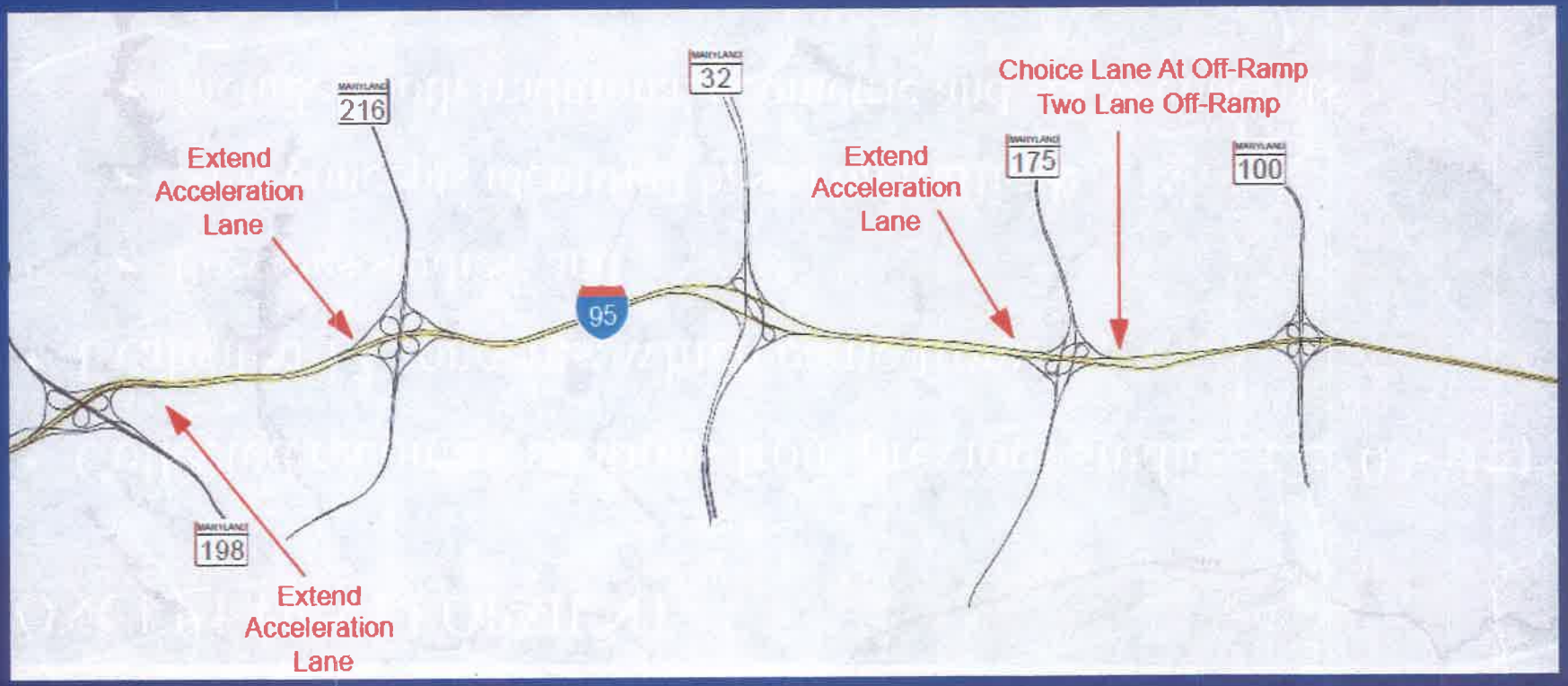
BASELINE



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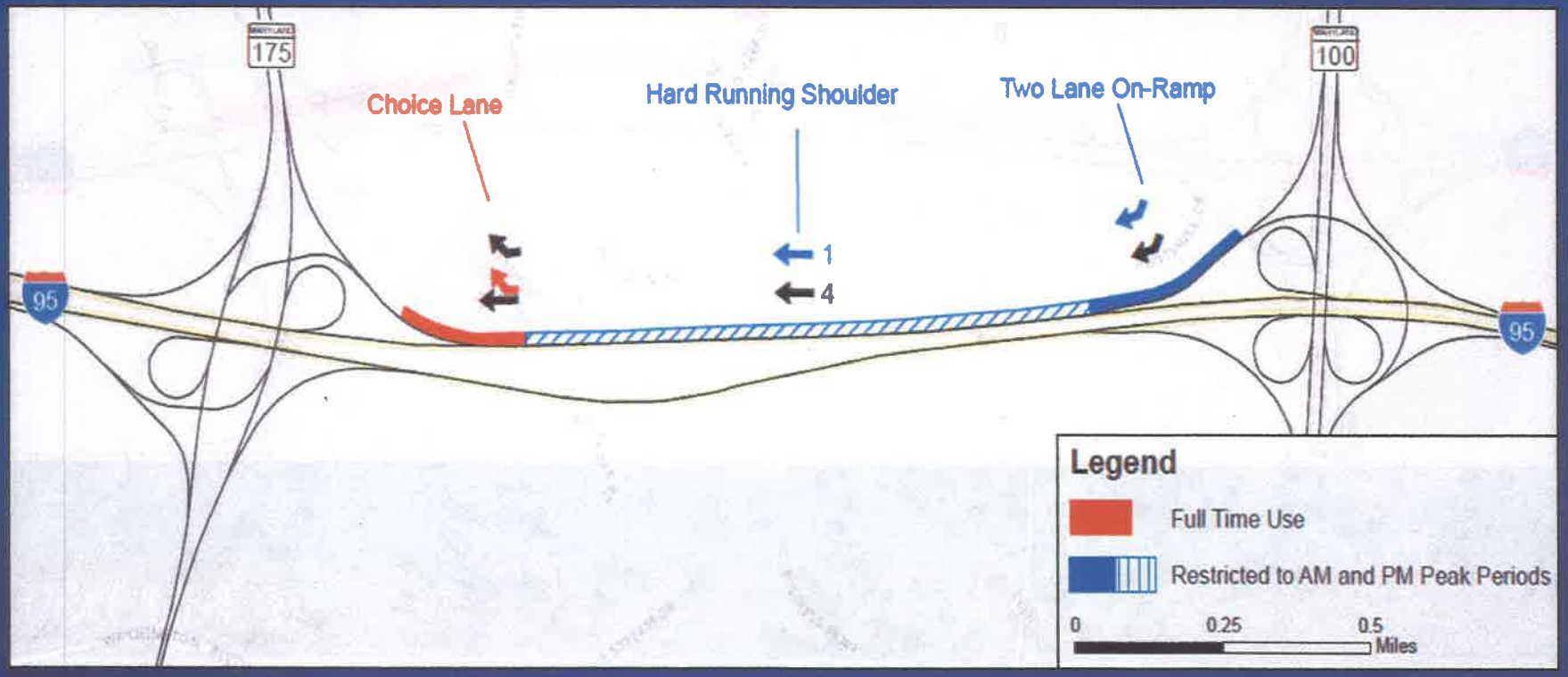
CONCEPT 2



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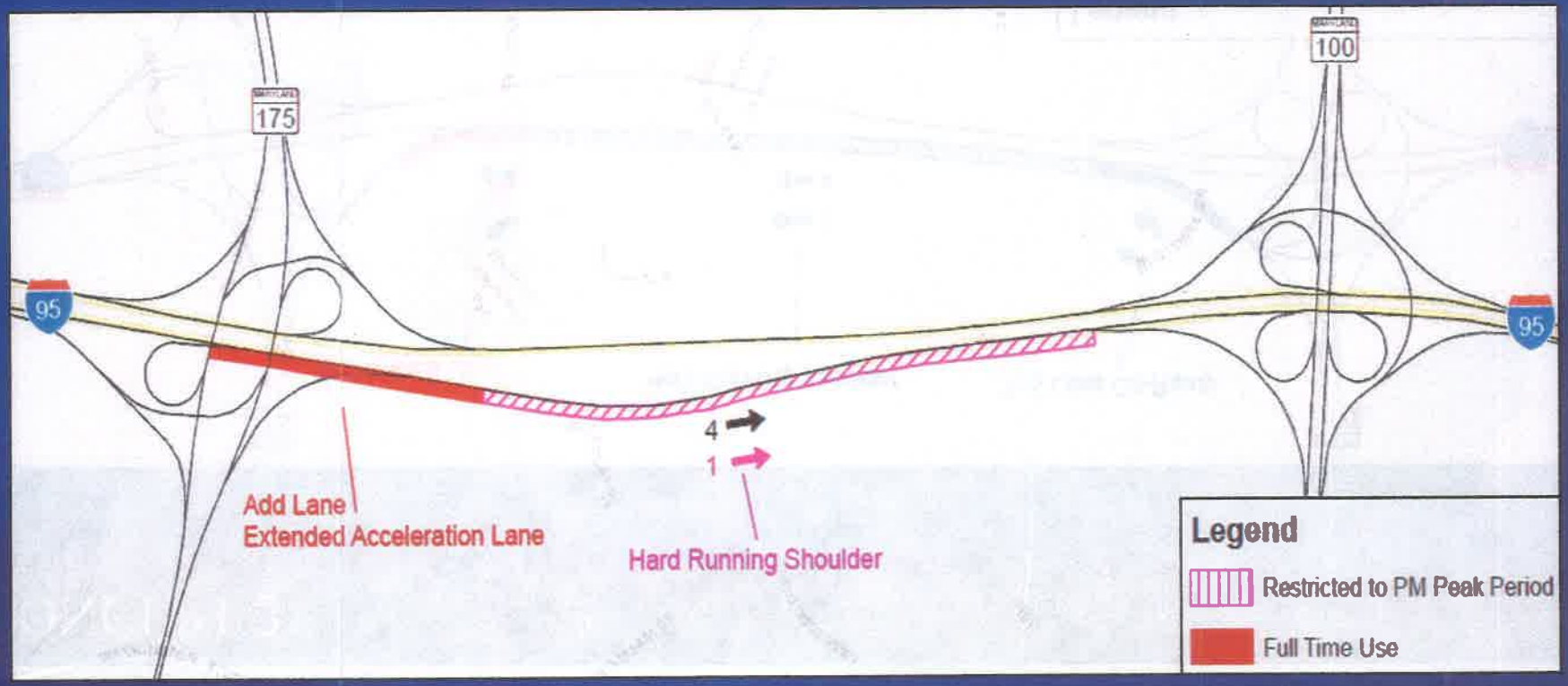
CONCEPT 3b



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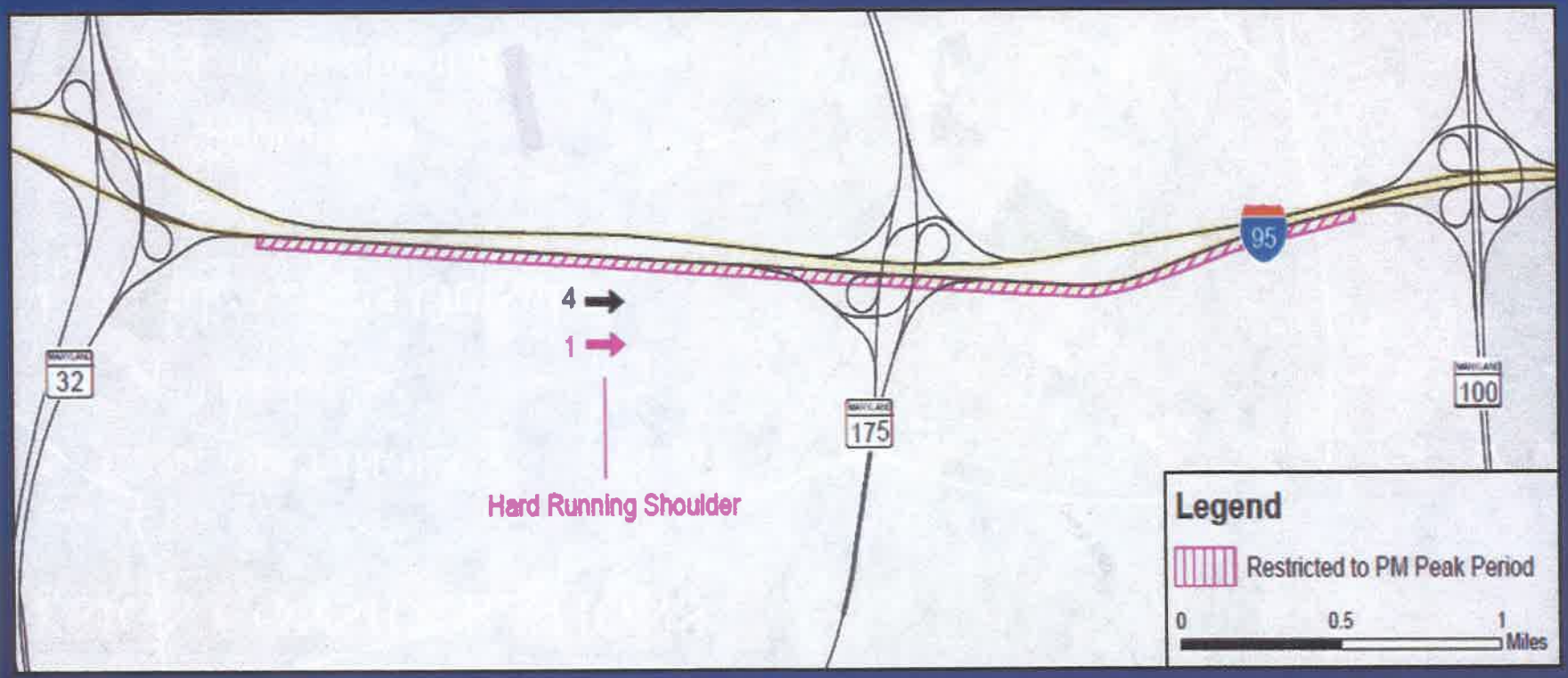
CONCEPT 5



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DESIGN CONSIDERATIONS

- Lane operations
  - Truck Use
- Inside versus Outside
  - Safety
  - Operations
  - Environmental
- Design exceptions
  - CMF Comparison

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ITS STRATEGIES

- Visited VA's I-66 Operations Facility.
- Considering:
  - Current state
  - Level of improvement
  - User expectancy
- Working with internal stakeholders.
- Continuing organization effort.

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FUTURE CONSIDERATIONS

Operations

- Hours of operation
- State laws w.r.t. CHART
- Expanded mission
- Maintenance

Environmental

- Noise impacts
- SWM

Design

- Colored pavement
- Signs
- Driver behavior
- Emergency pull-offs
- Life Cycle costs
- Long Term plans

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Thank you!

Questions / Comments ?

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CONCEPT OVERVIEW

Concept	Total Cost	Crash Rate	Travel Time	BCA
2	$17 M	-30%	-69%	24.2
3b	$26 M	-22%	-59%	19.5
5	$38 M	-34%*	-51%*	14.6

- Each concept includes the baseline concept.
- Concepts will be grouped for deployment.
- Utilized SHRP 2 methodology for BCA

*Concept 5 improvements are for the MD 32 to MD 100 segment. Concept 2 & 3b apply to MD 175 to MD 100.

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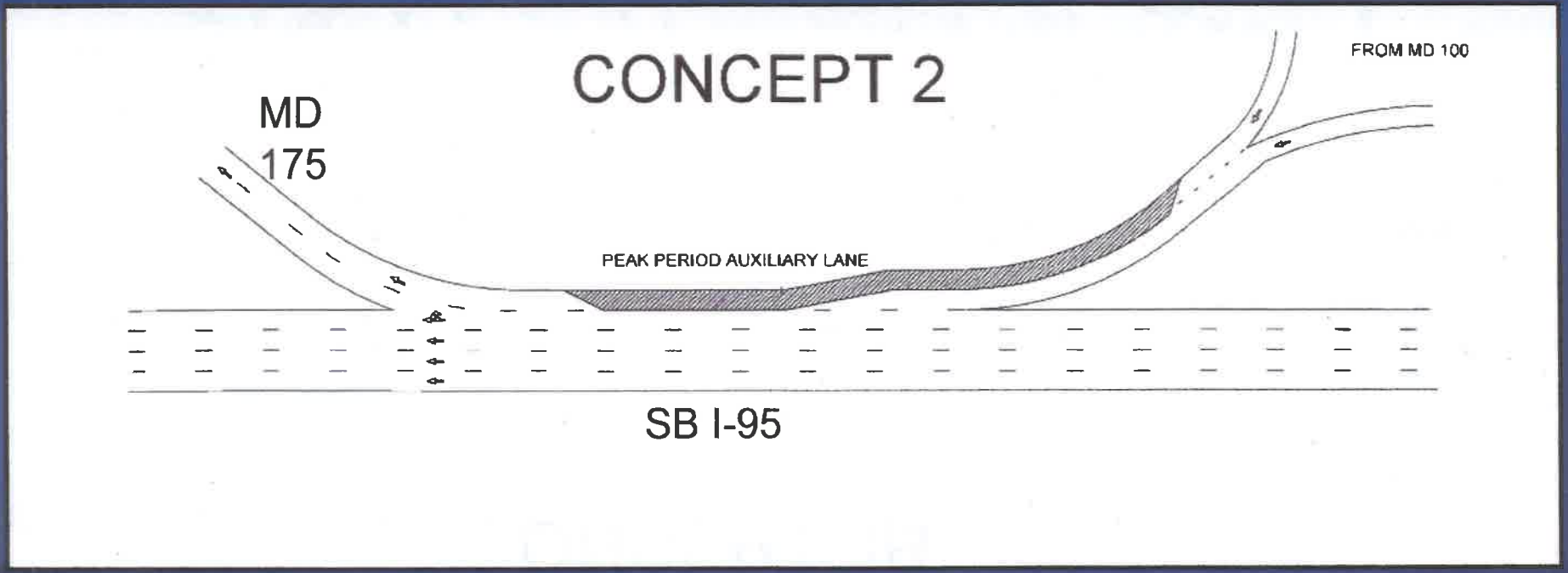
CONCEPT COMPONENTS (SB I-95)



- 5 Lane Control + DMS sign gantries
- Replace all guide signing
  - Change to Choice-Lane
  - Remove Services signs
- PTZ CCTV Coverage of system
- ATM Software
- ITS Costs: $2-3M
- Traffic Costs: $0.5M

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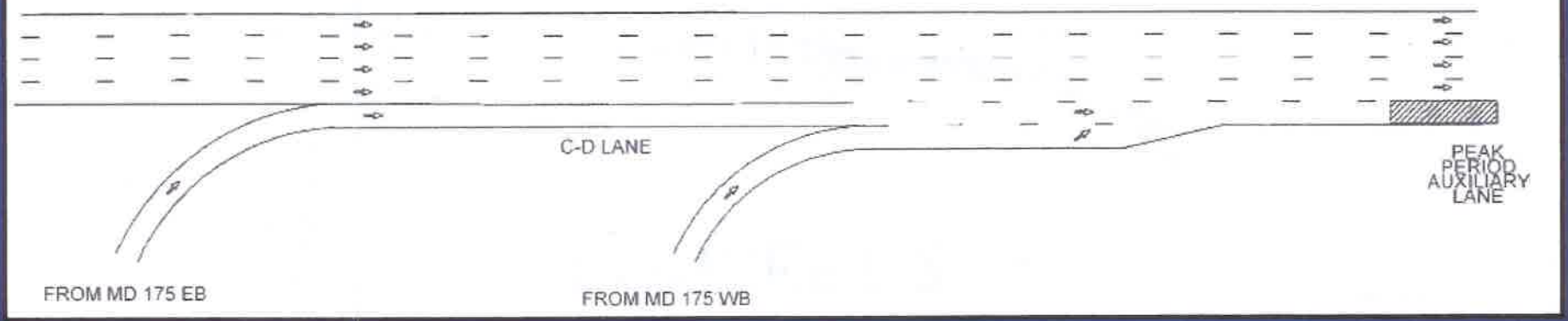
CONCEPT COMPONENTS (NB I-95)

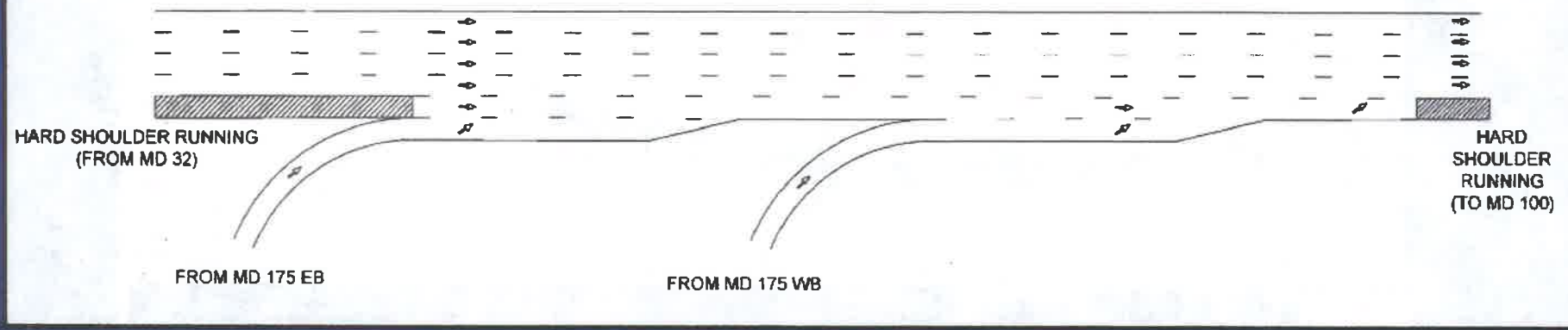
CONCEPT 3B



- 2 Lane Control + DMS sign gantries
- Relocate guide signing for MUTCD spacing
- PTZ CCTV Coverage of system
- ATM Software
- ITS Costs: $2-3M
- Traffic Costs: $0.25M

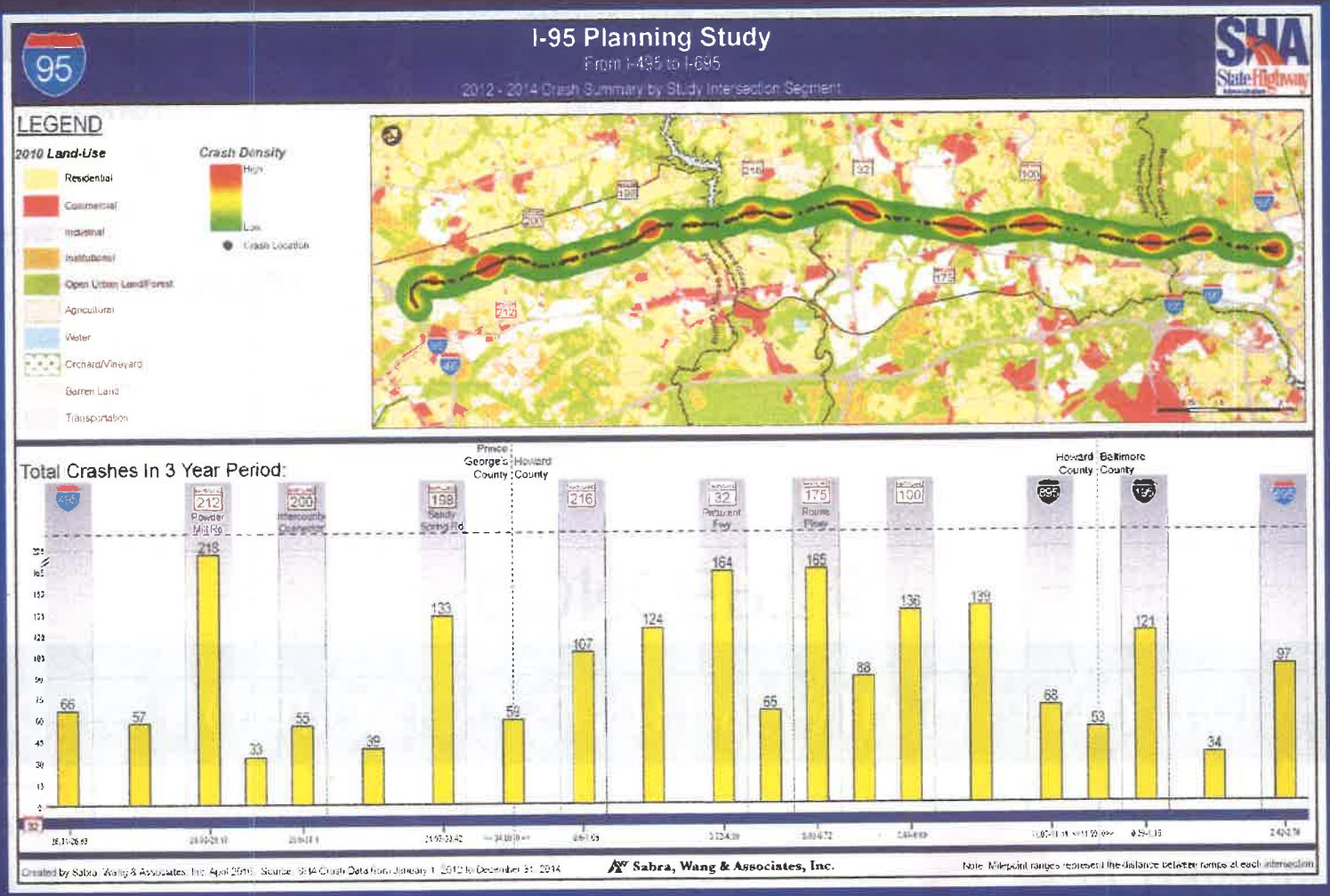
CONCEPT COMPONENTS (NB I-95; MD 32 to MD 100)

CONCEPT 5



- 6 Lane Control + DMS sign gantries
- Relocate guide signing for MUTCD spacing
- PTZ CCTV Coverage of system
- ATM Software
- ITS Costs: $4-5M
- Traffic Costs: $0.5M

Crash Data (1 of 4)



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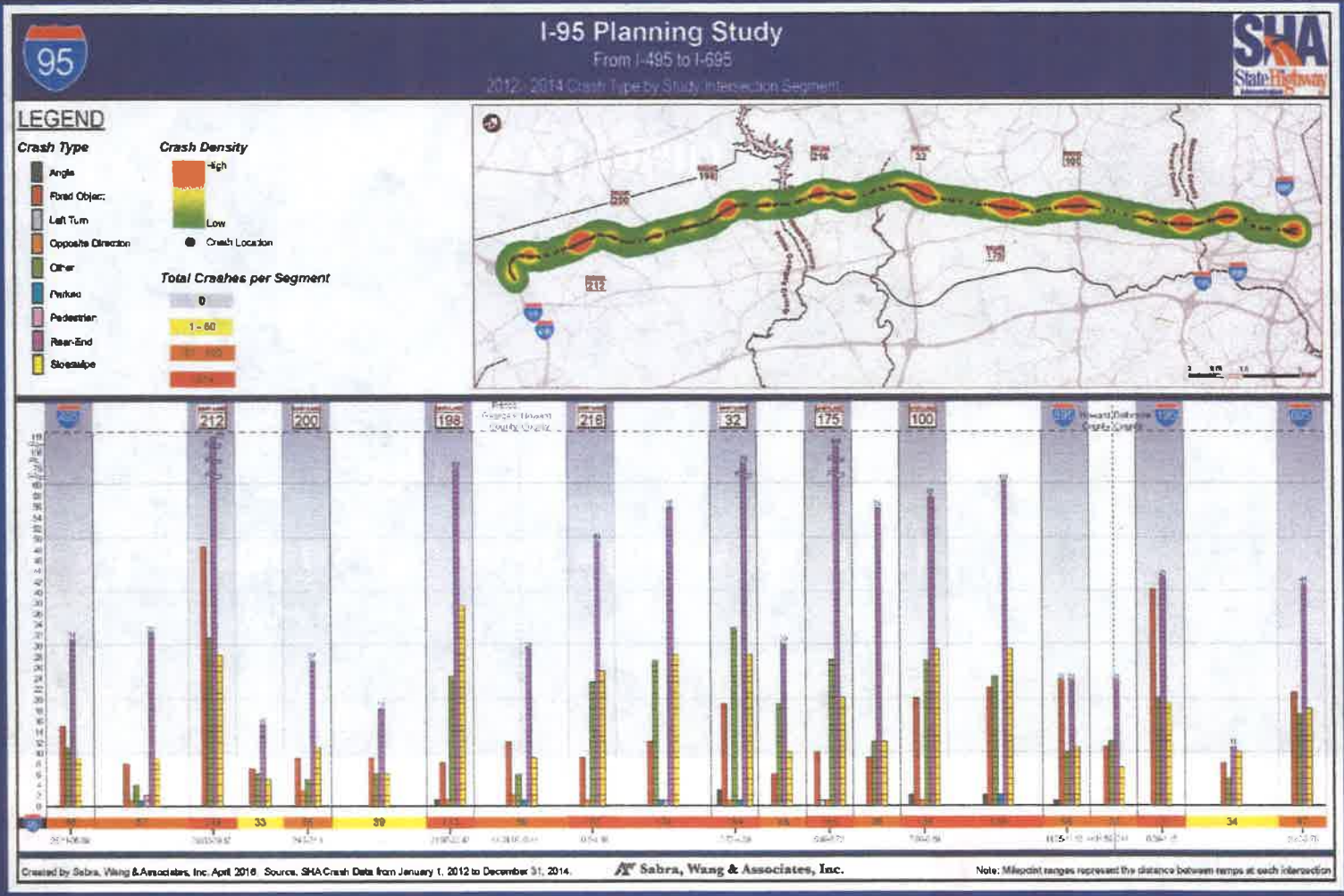
Crash Data (2 of 4)



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Crash Data (3 of 4)

Top 3 Locations (% over statewide avg)

1. MD 175 (24%)
2. MD 100 (8%)
3. MD 32 (4%)

Top 3 Crash Types (% of total)

1. Rear Ends (48%)
2. Sideswipe (18%)
3. Fixed Object (16%)

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Crash Data (4 of 4)

Top 3 Locations for rear ends

1. MD 175 (106 crashes)
2. MD 32 (79)
3. MD 198 (62)

Top 3 Locations for sideswipes

1. MD 198 (37 crashes)
2. MD 100 (29)
3. MD 32 (28)

Top 3 Locations for fixed objects

1. I-895 (23 crashes)
2. MD 100 (20)
3. MD 32 (19)

818 (41%) of crashes occurred during peak periods